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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/043,271	01/14/2002	Cheng-Qun Gui	P 290598 P-0224.010-US	4688
909	7590	03/17/2004	EXAMINER	
PILLSBURY WINTHROP, LLP			KIM, PETER B	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2851	
DATE MAILED: 03/17/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/043,271	<b>Applicant(s)</b> GUI ET AL.	
	<b>Examiner</b> Peter B. Kim	<b>Art Unit</b> 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 February 2004.  
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 17-29 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
5) ☒ Claim(s) 1-14, 28 and 29 is/are allowed.  
6) ☒ Claim(s) 15 and 17-27 is/are rejected.  
7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☒ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

Applicant's arguments filed on Feb. 12, 2004 have been fully considered.

#### ***Claim Objections***

Claim 23 is objected to because of the following informalities: "said alignment is on the side of the substrate" seems to be typo. Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 17, 19, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Moriyama et al. (Moriyama) (4,798,470).

Moriyama discloses in Fig. 8, a device manufacturing method and lithographic projection apparatus comprising a radiation system (113), a support structure (109) to support beam patterning structure (106), a substrate table (111) to hold substrate (101) with a first side covered with photosensitive material (102) and a second side with alignment mark (103), a projection system (104) an alignment system to align a pattern of the patterning structure and an optical system (124, 125) to transmit an image of the alignment mark (103) from a side of the substrate

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opposite the target portion. Moriyama discloses the optical system arranged to transmit an image of the alignment mark at a plane of the first side of the substrate (col. 5, line 30-45).

Claims 17-19 and 23-25 are rejected under 35 U.S.C. 102(b) as being anticipated by Yoichi (JP 1164032).

Yoichi discloses in the abstract and Fig. 1, a device manufacturing method and lithographic projection apparatus comprising a radiation system (2), a support structure to support beam patterning structure (1), a substrate table (6) to hold substrate (3) with a first side covered with photosensitive material and a projection system (5) an alignment system to align a pattern of the patterning structure and an optical system (8) to transmit an image of the alignment mark (B) from a side of the substrate opposite the target portion. Yoichi also discloses alignment marks (A and B) on the first side where the radiation is transmissible through the substrate (Fig. 1).

Claims 17, and 19-26 are rejected under 35 U.S.C. 102(e) as being anticipated by Sogard et al. (Sogard) (6,376,329).

Sogard discloses in Fig. 1 and 5A, a device manufacturing method and lithographic projection apparatus comprising a radiation system (7), a support structure (5) to support beam patterning structure (4), a substrate table (10) to hold substrate (1) with a first side covered with photosensitive material and a second side with alignment mark (22, 22'), a projection system (8) an alignment system to align a pattern of the patterning structure and an optical system (15) to transmit an image of the alignment mark (22, 22') from a side of the substrate opposite the target portion. Sogard discloses optical system comprising an optical fiber (68), and infrared light

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source (64). Sogard also discloses in Fig. 1, the optical system with at least two mirrors and two lenses and the alignment radiation transmissible through the substrate.

***Claim Rejections - 35 USC § 103***

Claims 15 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moriyama et al. (Moriyama).

Moriyama discloses the claimed invention as discussed above; however, Moriyama does not disclose alignment marks on the first side as well as the second side. Moriyama also does not disclose the alignment radiation and the projection beam having the same wavelength. As applicant argues on page 7 of response to the office action, it would be obvious to one of ordinary skill in the art to provide the projection beam and alignment radiation having the same wavelength from the teachings of Moriyama because it would be more efficient to provide a single source of light. The examiner takes an official notice that a substrate with alignment marks located on the same side as the target portion is well known. Therefore, it would be obvious to one of ordinary skill in the art to provide a substrate having alignment marks on the both sides since such substrate can be used with alignment system located on a same side of the substrate as the projection system as well as the one located on the opposite side of the projection system as taught by Moriyama.

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yoichi.

Yoichi discloses the claimed invention as discussed above; however, does not disclose the alignment radiation and the projection beam having the same wavelength. As applicant

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argues on page 7 of response to the office action, it would be obvious to one of ordinary skill in the art to provide the projection beam and alignment radiation having the same wavelength from the teachings of Yoichi because it would be more efficient to provide a single source of light.

Claims 15 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sogard et al. (Sogard).

Sogard discloses the claimed invention as discussed above; however, Sogard does not disclose alignment marks on the first side as well as the second side. Sogard also does not disclose the alignment radiation and the projection beam having the same wavelength. As applicant argues on page 7 of response to the office action, it would be obvious to one of ordinary skill in the art to provide the projection beam and alignment radiation having the same wavelength from the teachings of Sogard because it would be more efficient to provide a single source of light. The examiner takes an official notice that a substrate with alignment marks located on the same side as the target portion is well known. Therefore, it would be obvious to one of ordinary skill in the art to provide a substrate having alignment marks on the both sides since such substrate can be used with alignment system located on a same side of the substrate as the projection system as well as the one located on the opposite side of the projection system as taught by Sogard.

***Allowable Subject Matter***

Claims 1-14, 28, and 29 are allowed.

***Response to Arguments***

Claim 17 does not include the added limitations of claims 1 and 12, and it is rejected along with the dependent claims.

***Conclusion***

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Peter Kim whose telephone number is (571) 272-2120. The examiner can normally be reached on Monday-Thursday from 8:30 AM to 6:00 PM. The examiner can also be reached on alternate Fridays during the same hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 571-272-2112. The fax phone numbers for the organization where this application or proceeding is assigned is 703 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571 -272-2800.

A handwritten signature in black ink, appearing to read 'Peter B. Kim', with a stylized flourish at the end.

Peter B. Kim  
Patent Examiner  
March 9, 2004